IMO Panel 4: GHG Reduction Strategies

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Agenda

① Decarbonization challenges affecting ship operators today

② What is direct measurement and how can it benefit climate policy?

③ What is SailPlan?

④ Case study: how are ship operators using SailPlan today?

⑤ Discussion
A sea change of regulatory and business pressures are demanding that ship operators change

**Macro Pressures**

**Carbon Intensity Indicator** - a carbon report card for ships used to reach emissions regulation targets

**EU ETS** - Direct carbon taxation of ship emissions beginning October 1st - causing panic

**SEC ESG Rule** - Anticipated this year, requires public companies to track Scope 1 and 2 emissions

**FuelEU** - Yet another reporting system alongside IMO DCS and EU MRV

**Customers and charterers** - Demanding cleaner transportation.

Digitalization and decarbonization present the greatest challenge to the maritime industry since World War II.
Why will direct measurement benefit climate policy?
Directly Measuring Emissions is a Decarbonization Strategy that Provides:

Accuracy, certainty, and auditability
Actionable insight to lower fuel use, saving money and reduce emissions (win-win climate strategy)
Simple data-reporting management from sensor to verifier
SailPlan measures and models the entire combustion process

Enabling vessel operators optimize engine combustion, lower fuel consumption per distance traveled, and reduce GHG emissions.

SailPlan’s platform fuses true emissions data with fuel and engine data, to draw insight from the emissions generated by the combustion process.
Emissions measurements offer insights ghg reduction opportunities and engine health

Alternative fuels, electrification, and other decarbonization efforts are not ready today - but we can always optimize and make vessels more efficient

Combustion efficiency: Are you burning your fuel effectively?
If not, what steps can you take to continuously improve your operation to reduce fuel and save money?

What green initiatives will have the greatest ROI on my decarbonization efforts?
What's the impact of these initiatives (hull cleaning, using biofuels, etc.)?
Direct measurement is an easier and more accurate way than calculating emissions via fuel consumption.

- CEMS can measure CH4, NOX, SOX, H2O and other GHGs
- Allows you to understand inefficiencies
- Measuring is more accurate than calculating emissions
- Removes the need to figure out how to determine emissions accurately
- Allows you to report true emissions - enables creating climate goals
Use case: Maritime Emissions Tracking

A commercial ship operator in the world uses SailPlan’s data ingestion, storage, and the SailPlan application to manage GHG emissions dataset reporting with internal and external stakeholders.
Baseline Run

312 GPH
9-10 kts
3,292 kVA (~2.6MW)

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<th>Engine 3 Data</th>
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<tr>
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<td>1,791 kVA</td>
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<tr>
<td>Load</td>
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<td>CH₄</td>
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<td>SO₂</td>
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<td>H₂O</td>
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Optimized Load and Power Run

156 GPH
8.5-10 kts
1,571 kVA (≈1.2MW)

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<td>96 ppm</td>
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<tr>
<td>H₂O</td>
<td>331 ppm</td>
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There is an opportunity to optimize around emissions and noise reduction

Some noise reduction strategies may not be optimal for ghg reductions
Finding the right noise reductions that also reduce ghg is possible via sensors and software
This would be possible by connecting noise and emissions sensors to software and looking at the data in real-time
Software would offer optimization suggestions based on the sweet spot between ghg and noise reduction
Discussion

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